

Unexamined Patent Publication No.: 3-22483

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Int. class: H01L 29/784; G09F 9/30

Title of the Invention: THIN FILM EL TRANSISTOR

Application No.: 1-157537

Application Date: July 19, 1989

Inventors: Kenichi Yanai, Tutomu Tanaka, Kenichi Oki

Applicant: Fujitsu, Ltd.

1. Title of the Invention

Thin Film Transistor

2. Claims

1. A thin film transistor wherein a gate insulating film (2) disposed between a gate electrode (1) and an operating semiconductor layer (5) comprises a ferroelectric film (3).

2. The thin film transistor as defined in claim 1, wherein the operating semiconductor layer (5) is constituted by an amorphous silicon hydride film, and the gate insulating film is a film stack including: a silicon nitride film (4) that is disposed in contact with the operating semiconductor layer (5); and the ferroelectric film (3) that is disposed in contact with the gate electrode.

3. Detailed Description of the Invention

(General Description)

The present invention relates to a structure of a thin film transistor (TFT) for driving a liquid crystal device. An object of the invention is to provide a novel TFT structure wherein a

positive voltage can be used as a threshold voltage. According to the invention, a gate insulating film disposed between a gate electrode and an operating semiconductor layer includes a ferroelectric film.

Unexamined Patent Publication No.: 60-91597

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Title of the Invention: THIN FILM EL LIGHT EMITTER

Application No.: 58-197578

Application Date: October 24, 1983

Inventors: Kaku Fujimura, Kouichi Oshima, Yukio Ide, Yoshiyuki Kageyama

Applicant: Ricoh Co., Ltd.

Claims

1. A thin EL light emitter comprising:
a substrate;
a luminescent layer that is formed on the substrate using an amorphous silicon material containing at least hydrogen atoms or halogen atoms and emits light when an electric field is applied thereto; and
a thin film transistor that is formed on the substrate integrally with the luminescent layer and controls application of the electric field to the luminescent layer in response to an electric signal from the outside;
wherein insulating layers are disposed on either side of the luminescent layer, and the insulating layer is of the same material as a gate insulating layer of the thin film transistor.
2. The EL light emitter as defined in claim 1, wherein the material of the insulating layer is a ferroelectric material.
3. The EL light emitter as defined in claim 2, wherein the

ferroelectric material is lithium niobate.

4. The EL light emitter as defined in claim 2, wherein the ferroelectric material is lead titanate.

5. The EL light emitter as defined in claim 2, wherein the ferroelectric material is lead-zirconium titanate.

6. The EL light emitter as defined in claim 2, wherein the ferroelectric material is barium titanate.